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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/452,930	12/02/1999	CARL E. RADZIO JR.	79189CEB	1934

1333 7590 01/06/2003

PATENT LEGAL STAFF
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EXAMINER

HECKENBERG JR, DONALD H

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 01/06/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/452,930

Applicant(s)

RADZIO ET AL.

Examiner

Donald Heckenberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-4 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-4, and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that

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was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 3-4, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimoto et al. (US Pat. No. 5,350,288; previously of record) in view of Nomura et al. (US Pat. No. 5,156,754; previously of record), Valyi (US Pat. No. 3,670,066; previously of record), and Gardner (US Pat. No. 4,342,717; previously of record).

Kimoto teaches an injection molding apparatus comprising a screw cylinder (4) having a tip, a nozzle (9) at the tip, and a thread-screw (3) advanceable in the screw cylinder for injecting the resin from the nozzle, the mold also comprising a cavity mold (33) and a core mold (34) forming a hollow (42) therebetween for forming an injected molded product therein, a first molten resin flow path (39 and 42) extending from inside the screw cylinder to a terminal end of the hollow, and a pressure relief valve (40) located on the resin flow path at the terminal end of the hollow. The valve of Kimoto is such that the valve would remain in an open state in which the valve is retracted while simultaneously the product is ejected from the

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mold , the product ejected including the part molded in the first resin flow path, and the part molded in the second resin flow path (see figs. 1-2). Kimoto teaches the pressure relief valve to comprise a movable pin actuated by a spring bias (50), the movable pin (48) being adapted for movement between a first position blocking the resin when the pressure is less than a predetermined value, and to a second position releasing the resin into a second molten resin flow path in fluid communication with the first resin flow path thereby relieving pressure in the first path (col. 5, ln. 55 - col. 6, ln. 5). Kimoto further teaches the mold to comprise stationary and movable portions for accessing the cavity along a parting line (51) with the valve located on the parting line.

Kimoto fails to teach the injection mold to be made from cast epoxy and thermo-set materials. Kimoto also fails to teach the relief valve to be adjustable for accommodating resin with different pressure and flow characteristics, with the valve being adjusted by a threaded screw supporting the spring bias biasing the movable pin.

Nomura teaches the making of injection molds form cast-epoxy and thermosetting materials because of the ease of which the molds may be made (col. 1, lns. 17-24).

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Valyi teaches an injection molding apparatus wherein a relief path (35) is created with using a spring biased valve (36) wherein the spring bias (24) is held by a threaded screw (26).

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Kimoto as such to have made the mold from cast-epoxy and thermosetting material because it would be easy to construct the mold from these materials as suggested by Nomura.

It also would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Kimoto as such to have used a threaded screw arrangement to support the spring bias because this is a suitable arrangement for the construction of a relief valve as taught by Valyi and further because this would allow for adjustment of the spring bias acting on the valve. It is further noted that generally the provision apparatus adjustability, where needed, is seen as an unpatentable advance. In re Stevens, 212 F.2d 197, 101 USPQ 284 (Cust. & Pat. App. 1954). The reference Gardner is cited as further showing that the provision of making pressure relief valves adjustable is known in the art, as Gardner teaches a relief valve structure (26) with a spring

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bias (25), the valve being adjustable to accommodate different molding conditions (see col. 3, lns. 25-32).

The use of the pressure relief valve to accommodate a change in molten resin material and a corresponding change in the molding cavity pressure is a limitation directed at the intended use of the apparatus. It is well settled that the intended use or operating process of an apparatus is not germane to the issue of patentability of the apparatus. If the prior art structure is capable of performing the claimed use or operating in the claimed manner, then it meets the claim limitations. In re Casey, 370 F.2d 576, 580 152 USPQ 235, 238 (Cust. & Pat. App. 1967); In re Otto, 312 F.2d 937, 939, 136 USPQ 458, 459 (Cust. & Pat. App. 1963). In the instant case, the injection mold with the adjustable pressure relief valve suggested by the combination of Kimoto, Nomura, Valyi, and Gardner would be capable of adjusting to changes in the pressure of the cavity, and thereby accommodate for different molding materials at different molding pressures in particular molding processes. The combination of Kimoto, Nomura, Valyi, and Gardner therefore suggests all of the limitations of the apparatus claims of the instant application.

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5. Applicant's arguments filed October 30, 2002 have been fully considered but they are not persuasive.

With respect to the combination of Kimoto, Valyi, and Gardner, Applicant argues that the references do not render the use of an adjustable pressure relief valve for accommodating molten resin material changes as obvious to one of ordinary skill in the art. Applicant argues that the process disclosed by Valyi is different than the process being set forth in the instant application, and that Gardner is merely disclosing a process for maintaining the pressure on a reservoir of molten plastic outside the mold cavity as it cools after injection.

As set forth in the previous Office Action, and repeated above, the combination of Kimoto, Valyi, and Gardner do suggest an adjustable pressure relief valve. The primary reference of Kimoto clearly provides a pressure relief valve in the same type of apparatus as that of the instant application. In the same field of endeavor of molding plastic materials under pressure, Valyi teaches a pressure relief valve using a spring biased. One of ordinary skill in the art when viewing the Kimoto and Valyi references would have seen that the spring biased features of Valyi could readily be incorporated into the pressure relief valve of Kimoto. Such a valve would inherently be adjustable. Gardner is further cited to show that adjustable pressure relief

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valves are known in the art. Further, as set forth in the previous Office Action and repeated above, the provision of making a part adjustable, where needed, is generally seen as an unpatentable advance. Therefore, an adjustable relief valve is suggested by the combination of references.

Applicant seems to argue with respect to the Valyi and Gardner references that the combination is rendered unobvious because the references are directed to different operating processes than the instant application.

As set forth above, it is well settled that the intended use or operating process of an apparatus is not germane to the issue of patentability of the apparatus. If the prior art structure is capable of performing the claimed use or operating in the claimed manner, then it meets the claim limitations. In the instant case, the combination of Kimoto, Gardner, and Valyi render obvious an injection mold with the adjustable pressure relief valve as set forth above, with the combination being capable of being used in the same molding processes set forth in the instant application. Therefore, the combination anticipates the apparatus claims of the instant application.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS**

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ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

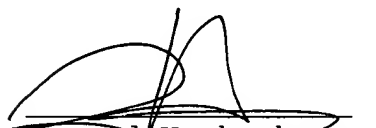
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (703) 308-6371. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jan Silbaugh, can be reached at (703) 308-3829. The official fax phone number for

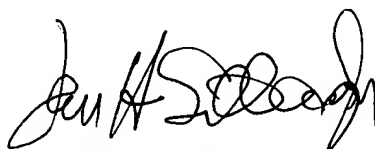
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the organization where this application or proceeding is assigned is (703) 872-9310 for responses to non-final action, and 703-872-9311 for responses to final actions. The unofficial fax phone number is (703) 305-3602.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Donald Heckenberg
December 31, 2002



JAN H. SILBAUGH
SUPERVISORY PATENT EXAMINER
ART UNIT 1722
01/03/03